

Sun Xiaochun and Jacob Kistemaker, *The Chinese Sky during the Han: Constellating Stars and Society*. Leiden: Brill, 1997. 240 pages, 8 tables, 3 fold-out maps.

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This work by Sun and Kistemaker would ascertain by Fourier analysis the positional astronomy of the Chinese sky during Han and then present "the cultural background" behind the constellations' names (pp. 9, 11, 95). The book in consequence divides into two parts, the first highly technical and the second of greater potential interest to the non-specialist, whose conceptual fit is less than ideal. After a brief general introduction to the Chinese sky, the authors undertake to date the core of the received text of the *Shishi xingjing* (Mr. Shi's Star Classic) to the first half of the first century BC, though some later material has been interpolated (p. 102). The authors then build a plausible case that the *Star Classic* probably reflects careful observations made in connection with the replacement of the Sifen calendar by the Taichu calendar in 104 BC (the first to require the armillary sphere in addition to the gnomon and water clock), possibly those made by Xianyu Wanren's group of twenty-two astronomers in the years 78-76 BC. (Obviously, the authors' findings only hold true if their assumption is correct that all observations were made from a single instrument in a single location, the Han capital of Chang'an. But if they presumed the contrary—that considerable data noise or variation was produced by observations made at different times and places, then they would then also have to posit an even greater degree of accuracy for the ancient Chinese astronomy, which seems most unlikely. In fact, the fairly systematic nature of the errors found in the data, which are more apt to represent instrument error than human error, suggest that the chosen armillary sphere was one degree off from complete accuracy [p. 64].) Having established the authenticity of the *Shishi xingjing*, the authors marshal a range of early sources (with most Song and pre-Song) to reconstruct three different (if overlapping) versions of the Han sky according to the competing star systems then in use, on the understanding that the systems associated with Gan De and Wuxian were devised later, as supplements, in Han (pp. 81, 85). As the authors note, their proposed star maps differ "appreciably from reconstructions from the Qing catalogues" (p. xi), though the authors admit that such attempts can never be exact, since it was often only the major stars of each constellation that were visible (p. 93).

Though I am neither a trained mathematician nor a professional astronomer, conversations with an expert (Jerry Sellwood of Rutgers University, New Jersey)

confirmed my impression that the first half of the book by Sun and Kistemaker makes a contribution to the field. Simply put, if modern researchers are to use the ancient Chinese astronomical records, the positions the early Chinese assigned celestial phenomena must first be known, since (a) events were typically recorded by reference to the major constellations and (b) since the names and positions of the constellations have changed - in some cases significantly - over time. The relative dates of the Shishi and Gan De star systems need to be more secure also, if scholarly work is to proceed smoothly. (See *New Perspectives on Chu Culture*, ed. Thomas Lawton [Washington, D.C., Freer Gallery, 1991], p. 38.)

The second part of the book, comprising Chapters Five and Six (which is approximately one-third the total length of the text), turns abruptly to what it calls "the cultural background" of the Chinese sky, however. The authors intend their findings there to prompt further study on the possibility of foreign influence—especially the Babylonian, Indian, and Arabic—on the origin and development of certain features of the Han sky, in particular with regard to the twenty-eight lunar lodges (*xiu*). But their working premise emphasizes the existence of a huge conceptual gap between the Chinese ideas of the stars and those of other Asiatic cultures. According to the authors, the majority of the Chinese star names "are not from myths and legends, like in [sic] the Sumerian or Greek skies, but from specific material objects related to human society and activity" (p. 96; pp. xiii-iv). The either/or dichotomy, pitting myth and legend against a logic peculiar to the material world (which makes the early Chinese the first thorough-going materialists in the process), is unfortunate. For while the authors believe that star names indicating a tight correlation of the celestial and terrestrial worlds under the close supervision of Star Officers (*xingguan* 星官) prove an unusual preoccupation by the Chinese people with material objects, their evidence fails to convince. Constellations named—in apparently pedestrian fashion—after a variety of military installations do not preclude a mythological association with, for instance, the god Qiyong, who makes a frequent appearance in Han tombs, as Derk Bodde's *Festivals in Classical China* (Princeton, Princeton University Press, 1975) notes. And how can the authors be so sure that the Han court astrologers "designed" the sky (i.e., configured and named the constellations), rather than that they inherited and then systematized traditional configurations and names (p. 3)?

A number of problems add to the confusion in Chapters Five or Six. Perhaps the worst stems from the authors' propensity to draw firm conclusions from source material liable to alternate constructions, a propensity evident in the very first paragraphs offered in support of their hypothesis (pp. 96-97). To explain Sima Qian's decision to name a treatise devoted to Heaven's patterns as *Tianguan* 天官 ("Celestial Officers"), the authors quote the *Shiji suoyin* written some six centuries after Sima Qian (ca. 145-86 BC) by Sima Zhen, which says (by their translation):

The *guan* means constellations. Constellations in the sky are ranked high and low, like the ranks of officials in human society; hence the name Celestial Officials. (*Shiji* 27:1289)¹

Based on the "like," the authors conclude: "Thus the celestial projection was a reflection of human society." The *Suoyin* may understand Sima Qian's intent (not to mention that the statement seems a commonplace from the modern point of view). But if the authors mean to reconstruct the Han frame of mind, their confidence in this conclusion is certainly unwarranted, given the famous passage from the "Great Commentary" to the *Changes*, which makes the fact of "heaven being high and earth low" the ultimate model upon which different ranks in human society are based (Xi A/1).

The authors then go on to cite Zhang Heng's speculation (found also in *Shiji* 27:1289) that

Stars materially originated from the earth below; but their essence was perfected above. They are randomly scattered in the sky, but every one of them has its own distant connections. In the wilderness stars denote articles and objects; in the court, they denote officials; among people, they denote human action.

The translation, short as it is, is problematic at several points. Two characters at the start of the passage have been overlooked. Talk of "random scattering" also seems inappropriate, since randomness in arrangement would undermine Zhang Heng's point that each of the stars has its jurisdiction over one discrete portion of life on earth ("has its own connections" in their rendering). And if the starry *xiang* 像 ("images") only "denote" objects in the real world, standing as pale symbols for them, they are far less powerful than the end of Zhang Heng's comments relating the constellations to the gods (*shen* 神) and fortune (*jixiong* 吉凶) [inexplicably omitted in the translation] would indicate. Nonetheless, the authors argue, "Thus it was clearly argued [presumably by Zhang Heng, in the authors' view] that the sky was a reflection of the earthly world and society."² With such a ham-fisted approach, readers can hardly be surprised when the authors say of the sentence, "Huangdi has four faces," that "*this can only mean* [emphasis mine] that Huangdi was related to four seasons and four directions" (p. 120).

Despite an occasional passage of stellar clarity (pun intended), as on p. 107, the work is marred by other errors in Chapters Five and Six, including: (1) the incorrect

¹ Note that the authors do not employ modern citation forms. At best, they refer only to the book from which a quotation is drawn. References to various editions made in this review are therefore my own.

² Another odd translation is found on p. 5, where the authors allege that Sima Qian wanted to get a "total perspective (of the Universe) of my own" (reading *cheng yi jia zhi shu*).

dating of certain key sources; (2) a failure to acknowledge changes in historical context; and (3) contradictory explanations of concepts important in the Zhan'guo and Han periods. Two instances of incorrect dating of sources should suffice: the "Yao dian" chapter of the *Documents* is repeatedly assigned to 2,300 BC, a date which no textual scholar could support, and the *Chunqiu fanlu*, much of which is now thought to date to the Six Dynasties, is ascribed *in toto* to Dong Zhongshu (ca. 176-104 BC) (p. 105).³ One example can demonstrate the anachronistic construction of an unchanging early China: Page 103 speaks of "China being the center of the flat earth, the 'Empire of the Middle,'" ruled by an emperor who had to maintain celestial-terrestrial harmonies through the announcement of the calendar "by the emperor in the Bright Hall *Mingtang* in the first month of the new year." It is quite unclear which time period this passage describes; none is specifically mentioned and no fewer than three historical periods are mentioned in preceding paragraphs: the Yin-Shang, the early Zhou, or the Chunqiu period. Setting aside the issue of "China" as a modern construct of the nation-state tending to impose on a geographic area anachronistic political fictions, the term *Zhongguo* (here, the "Empire of the Middle") had precise, if varying connotations over the course of time: on the Shang-Yin oracle bones, it refers to the capital and during the Chunqiu period, the Central States as heirs to a common culture. Why, then, "the Empire of the Middle"? And since there is no evidence that the *Mingtang* was the location of annual calendrical announcements prior to mid-Han times, has the topic switched to Han?⁴ At points the muddle is so pervasive that authors cannot even decide whether legendary figures actually existed or not. Page 117, for examples, writes of the "legendary Fu Xi," only to use that culture-hero's supposed discovery of the *Luo Writing* (*Luoshu*) "on the back of a river turtle" as the basis for the conclusion that the Four Images (one of which is the Dark Warrior, a turtle wrapped with a serpent) may be traced back to "very ancient times."

Having introduced serious anachronisms while ignoring the process of historical change, the authors use a number of basic concepts in ways that are bound to trip up the ordinary reader, if not the specialist. For instance, the authors cannot decide whether the cosmological term *wuxing* 五行 refers to objects, elements, or phases (p. 104). Altogether four star maps are identified as the "earliest" (pp. 20, 89) by the book, and no detailed comparison is made of them. Nor do the authors exhibit a nuanced appreciation of the complex ties that bound professional classicists (the Ru, purveyors of what the authors call Confucianism), Daoism (by which they mean Zhuangzi and Laozi), and the technical experts of Han times, though Gu Jiegang began to explore this area some sixty years ago.

³ The main text concedes only a "reorganization" of the "Yaodian" by "later compilers" in Eastern Zhou (pp. 17-18).

⁴ Similarly, the authors cite a Neolithic burial to show the origin of the Green Dragon and White Tiger, but they do not address the significance of the Chu burials at Yunmeng or the Qin burials at Tianshi.

No one should underestimate the inherent difficulty—or significance—of research into the social construction of the constellations. Such research has begun to be undertaken by a number of scholars, including Ho Peng-yoke and Michael Loewe in Cambridge, Marc Kalinowski in France, and Li Ling in China. A much greater familiarity with the history of thought in the early period seems to be the virtual precondition for a heightened sensitivity to the strange pronouncements and multiple interpretations presented in the relevant materials. Such familiarity, of course, rests upon the examination of a broader range of evidence drawn from the Han and pre-Han periods than Sun and Kistemaker have reviewed. Both the *Odes* and the *Zuozhuan*, for example, shed light on the position of the dry gourd (*hugua* 瓠瓜) near the Celestial Ford. The apocrypha so carefully studied by Chen Pan and compiled by Yasui Kôzan and Nakamura Chôhachi should be mined for passages on the star deities, and consideration must go to the Sackler Chu Silk Manuscript and early almanacs, as well. The history of early Buddhism is relevant, too, to the astrology of Eastern Han, as Tsukamoto Zenryû shows.⁵ No doubt a whole monograph could be written on the trope of the celestial journey by boat or bridge alone, which figures so prominently in Han tomb art. Perhaps it behoves all of us who are interested in early Tianwen to take on much smaller slices of the Han sky in our research, in the hope of extending our present knowledge beyond vague generalities.

⁵ Tsukamoto Zenryû, *A History of Early Chinese Buddhism*, 2 vols., trans. from the Japanese by Leon Hurvitz (Tokyo, Kodansha International, 1985), I, 27-32, speaks extensively about the astrology and spirits of the Eastern Han period.